Gonycentrum heissi nov.sp. (Hemiptera, Heteroptera, Tingidae) from Madagascar[1]

B. Lis

Abstract: *Gonycentrum heissi* nov.sp. from Madagascar is described, illustrated and compared with its relatives, i.e. *G. chadense* Duarte Rodrigues, and *G. coronatum* (Fieber). It is the second species of the subfamily Phatnomatinae recorded from the island. The diagnostic characters of the genus *Gonycentrum* are briefly discussed, and a key to all known species is provided.

Key words: Afrotropics, *Gonycentrum*, Hemiptera, Heteroptera, Phatnomatinae, key, Madagascar, new species, Tingidae.

Introduction

The genus *Gonycentrum* Bergroth was represented by two species, so far, namely *Gonycentrum coronatum* (Fieber 1844) described from the Oriental Region ("Ostindien") and known from India and Sri Lanka (Drake & Ruhoff 1965; Péricart 1990), and *G. chadense* Duarte Rodrigues 1978 described from Chad, and recorded also from Sudan (Duarte Rodrigues 1987; Göllner-Scheiding 2004).

According to Froeschner (1996), representatives of the genus *Gonycentrum* can easily be recognised by the absence of a dorsomedial cephalic spine or tubercle (they have only an unpaired clypeal cephalic spine, and paired cephalic spines: jugals, frontals, and occipitals, the latters at least as long as the eye), and by the outer margin of the paranotum without angles or spines.

In the present paper, I describe a new species of the genus *Gonycentrum* from Madagascar, representing the second species of the subfamily Phatnomatinae sensu Lis (1999) recorded from the island, after *Phatnoma hova* Schouteden 1957 (Duarte Rodrigues 1992; Göllner-Scheiding 2004).

Gonycentrum heissi nov.sp. (Fig. 1)

Diagnosis: The new species is similar to both known species, but differs in having a broader costal area of hemelytra, composed of three rows of areolae (costal area composed of two rows of areolae in *G. coronatum*, and irregularly biseriate in *G. chadense*), occipital cephalic spines relatively short, as long as or slightly shorter than eye, and slightly directed upward (occipital cephalic spines slender, longer than eye, and horizontal, directed forward in *G. chadense* and *G. coronatum*); moreover, the new species differs from its relatives by having lateral margins of paranota distinctly sinuate, forming two lobes: small, triangular lobe anterolaterally, and larger, more rounded lobe medially (lateral margins of paranota almost straight in *G. chadense* and *G. coronatum*).

Description: Measurements (in mm): body length 1.76-1.78 (males), 1.87 (female); maximum body width 0.84-0.90 (males), 1.01 (female); pronotal length 0.37-0.38 (males), 0.44 (female); pronotal width 0.60-0.62 (males), 0.66 (female); length of hemelytron 1.15-1.16 (males), 1.23 (female); length of discoidal area of hemelytron 0.67-0.70 (males), 0.74 (female); length of antennal segments 0.05:0.04:0.40:0.21 (male); 0.05:0.04:0.36:0.18 (female).

Head brown, armed with seven relatively short spines; unpaired clypeal spine and paired jugal spines very short; a pair of frontal spines the longest (as long as the first

[1] This paper is dedicated to Ernst Heiss on the occasion of his 70th birthday.

Denisia 19, zugleich Kataloge der OÖ. Landesmuseen Neue Serie 50 (2006), 509–512

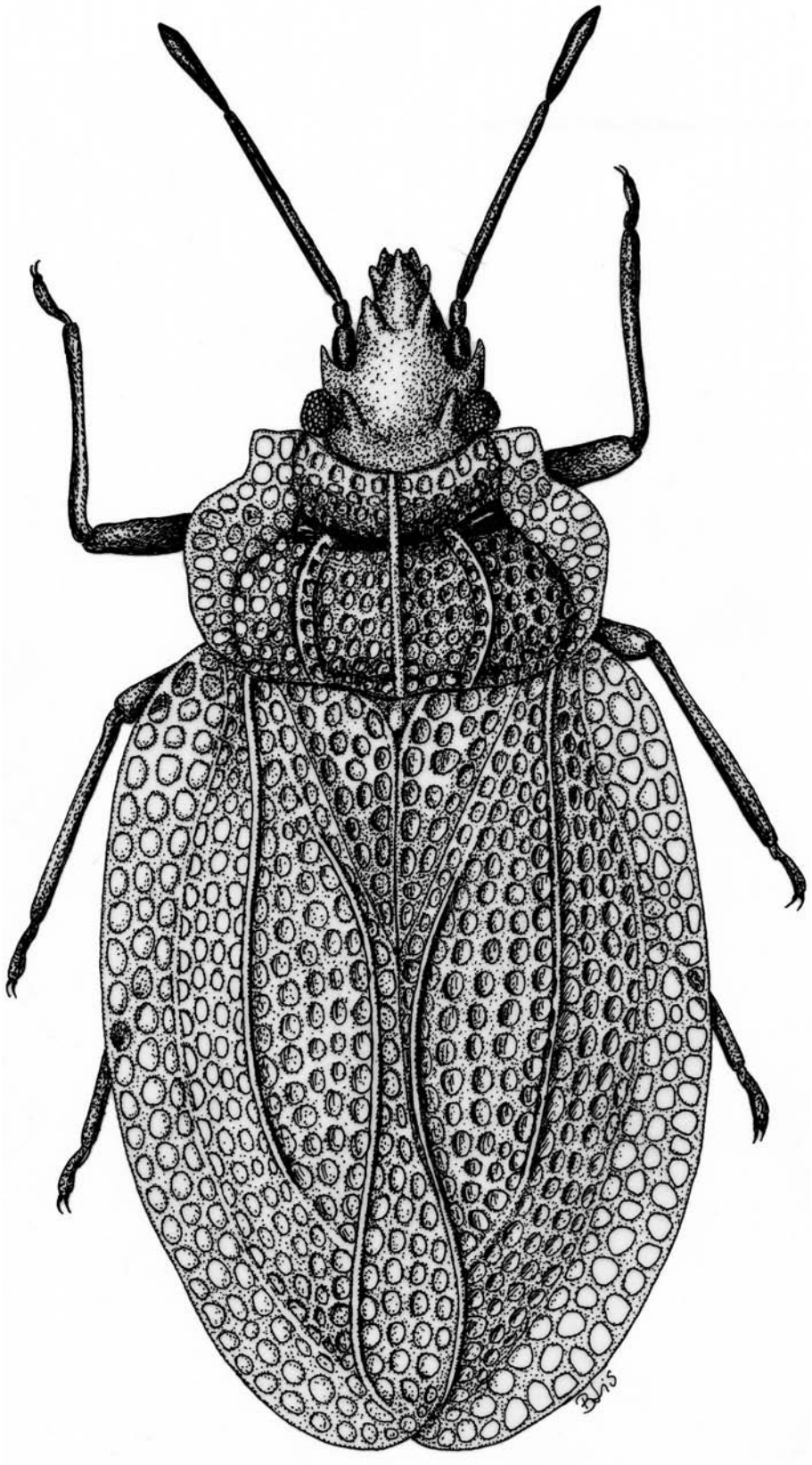

Fig. 1: *Gonycentrum heissi* nov.sp. – dorsal habitus of the holotype.

antennal segment), blunt, almost vertical; paired occipital spines as long as or a little shorter than eye, slightly directed upward; eyes dark brown, relatively small, frons about three times broader than the width of the eye. Bucculae rather low, composed of two rows of areolae posteriorly and uniseriate anteriorly, slightly surpassing head apex; bucculae brown, their ventral margin light brown, apices of bucculae narrowly rounded; rostrum long, extending beyond posterior margin of second abdominal sternum. Antenniferous tubercles anterolaterally prolonged into short, sharpened spines; antennae dark brown, segment III sometimes yellowish brown; segments I and II very short, segment III about twice as long as segment IV.

Pronotal disc dark brown, anterior margin of collar pale brown, paranota and pronotal carinae brown; pronotal disc slightly convex, areolated, tricarinate; pronotal carinae elevated, composed of one row of areolae, median carina reaching anterior margin of collar, lateral carinae reaching calli; lateral margin of paranota sinuate, each paranotum forming two lobes: small triangular lobe composed of two rows of areolae in its anterior part, and larger and more rounded one in the median part of paranotum, composed of 2-3 rows of areolae in its broadest part, each paranotum uniseriate around humerus; scutellum exposed, brown, its apical part whitish brown. The ostiolar opening surrounded by auricular peritreme.

Hemelytra light brown, clavi basad of their midlength whitish; lateral margin of hemelytra broadly rounded; costal area composed of 3 rows of areolae along its entire length, subcostal area composed of 4 (males) or 5 (female) rows of areolae in its widest part, discoidal area composed of 5-6 rows of areolae in its widest part, sutural area composed of 4 rows of areolae in its widest part; R+M vein elevated, composed of one row of areolae, except for its posterior part where the areolation is absent; Cu vein developed similarly, but areolae absent in its anterior part.

Abdominal sterna brown, with vestiture of short, white hairs; femora brown, tibiae and tarsi yellowish brown.

Material examined: Holotype (male): Madagascar: Antsiranana Province, Réserve Spéciale de l'Ankarana, 13.6 km 192° SSW Anivorano Nord, Elev 210m, 16-20 Feb 2001; 12°51'49" S 49°13'33" E, coll. Fisher, Griswold et al., Calif. Academy of Sciences, sifted litter tropical dry forest, collection code: BLF3012; CASLOT 010625; in the collection of California Academy of Science, San Francisco, USA; paratypes: female (the same data as the holotype), and male: Madagascar: Province d'Antsiranana, Réserve Spéciale de l'Ankarana, 22.9 km 224° SW Anivorano Nord, 10-16 Feb 2001; 12°54'32" S 49°6'35" E, coll. Fisher, Griswold et al., Calif. Academy of Sciences, sifted litter tropical dry forest, 80m, collection code: BLF2858; female in the collection of California Academy of Science, San Francisco, USA; male in the collection of the Zoologisches Museum, Humboldt Universität, Berlin, Germany.

Remarks: According to FROESCHNER (1996) the numbers and arrangement of cephalic spines, as well as the shape of paranota are the most important characters in defining genera of Phatnomatinae. Unfortunately, two characters of G. *heissi* nov.sp., namely the length of occipital cephalic spines and the shape of paranota show inconsistency with diagnostic characters given by FROESCHNER (1996). On the other hand, examination of all known species of the genus *Gonycentrum* enables to find several other characters common to them, namely (1) the arrangement of cephalic spines, (2) veins R+M and Cu developed as uniseriate laminae, and (3) sclerotized endosoma of aedeagus (see also LIS 2004); moreover, all known species of the genus have the same colour of pronotum and hemelytra: they are uniformly brown with their anterior parts whitish (even in G. *coronatum* – contrary to the characters given in Froeschner's key; see FROESCHNER 1996: 26). All these facts allow placing the new species in the genus *Gonycentrum*.

Key to species of *Gonycentrum*

1 Costal area of hemelytron triseriate along its entire length; paranota bilobate, their lateral margins sinuate; cephalic occipital spines slightly directed upward, as long as or shorter than the eye . .G. *heissi* nov.sp.
– Costal area at best biseriate; paranota not forming lobes, their lateral margins almost straight; occipital cephalic spines horizontal, directed forward, distinctly longer than the eye 2
2 Subcostal area irregularly triseriate; anterolateral paranotal angles biseriate; posterior pronotal margin broadly rounded, slightly prolonged backward and covering scutellum, except for its pale tuberculate tip . . . . . .G. *coronatum* (FIEBER 1844)
– Subcostal area composed of four rows of areolae; anterolateral paranotal angles uniseriate; posterior pronotal margin almost straight; scutellum exposed, brown with pale tip . . . . . G. *chadense* DUARTE RODRIGUES 1978

Acknowledgements

I express my sincere thanks to Dr. Norman Penny (Department of Entomology, California Academy of Science) and Dr. Ursula Göllner-Scheiding (Zoological Museum, Humboldt University, Berlin Germany) for the loan of the material. Collecting the specimens was funded by NSF grant DEB-0072713 and the Schlinger Foundation.

Zusammenfassung

Gonycentrum heissi nov.sp. wird aus Madagaskar beschrieben, abgebildet und mit den verwandten Arten G. *chadense* DUARTE RODRIGUES und G. *coronatum* (FIEBER) verglichen. Es ist die zweite Art der Unterfamilie Phatnomatinae, die von der Insel gemeldet wird. Die diagnostischen Merkmale der Gattung *Gonycentrum* werden kurz diskutiert und ein Schlüssel aller bekannten Arten zur Verfügung gestellt.

References

DRAKE C.J. & F.A. RUHOFF (1965): Lacebugs of the World: A Catalog (Hemiptera: Tingidae). — U.S. Natn. Mus. Bull. **243**: viii + 1-634.

DUARTE RODRIGUES P. (1987): African Tingidae XLVI. A new species and new records on distribution (Heteroptera) (1). — Arq. Mus. Bocage N.S. **1**: 9-17.

DUARTE RODRIGUES P. (1992): Insectes Hétéropteres Tingidae. — Faune de Madagascar. Muséum National d'Histoire Naturelle, Paris **78**: 1-94.

FROESCHNER R.C. (1996): Lace Bug Genera of the World, I: Introduction, Subfamily Canta-

caderinae (Heteroptera: Tingidae). — Smithson. Contr. Zool. **574**: 1-43.

Göllner-Scheiding U. (2004): Die Tingidae (Netzwanzen) der Äthiopis (Insecta, Heteroptera: Tingoidea). Katalog der afrikanischen Arten. — Nova Suppl. Ent., Keltern **17**: 1-173.

Lis B. (1999): Phylogeny and classification of Cantacaderini [= Cantacaderidae stat.nov.] (Hemiptera: Tingoidea). — Ann. Zool. (Warszawa) **49**: 157-196.

Lis B. (2004): Comparative studies on the ductus seminis of aedeagus in Tingoidea (Hemiptera: Heteroptera). — Pol. Pismo Entomol. **73**: 245-258.

Péricart J. (1990): Hémiptères Tingidae collectés en 1962 par l'expédition de l'Université de Lund à Sri-Lanka, avec la description de quatre especes nouvelles. — Nouv. Revue Ent. (N.S.) **7**: 377-388.

Address of the Author:

Dr. Barbara Lis
Department of Biosystematics
Division of Invertebrate Zoology
University of Opole
Oleska 22
45-052 Opole
Poland
e-Mail: c/o cydnus@uni.opole.pl